

**Notice of Allowability**

Application No.

09/843,269

Examiner

Mujtaba K. Chaudry

Applicant(s)

BOYER ET AL.

Art Unit

2133

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 5/9/2005.
2. ☒ The allowed claim(s) is/are 1-12.
3. ☒ The drawings filed on 16 June 2004 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All b) ☐ Some\* c) ☐ None of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
  - \* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date \_\_\_\_\_
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_

  
ALBERT DECADY  
SUPERVISORY PATENT EXAMINER  
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### **REASONS FOR ALLOWANCE**

Claims 1-12 are allowed. The following is an Examiner's statement of reasons for allowance:

Independent claim 1 of the present application teaches a method of dynamically shortening error correction codewords into segments for recording across a matrix, the method comprising: defining a matrix wherein the matrix comprises user data and error correction codewords; receiving user data for recording on a storage medium; determining the size of the received user data and the amount of the matrix that will be filled by the received user data; and recording error correction codewords segments in an interleave dynamically created to correspond only to the portion of the matrix filled by the user data. The foregoing limitations are not found in the prior arts of record. The prior art of record, namely Senshu, a data recording/reproduction is carried out in a disc format such that error correction codes interleaved with respect to the direction of data on a disc are collectively blocked into an error correction unit and that the input/output order of user data in an ECC block as an error correction unit is made coincident with the direction of processing of the error correction codes. Thus, coding can be started at the time when necessary data for generating one code is transmitted, without waiting for transmission of data for one ECC block. Also, transmission of user data can be started at the time when correction of one code is completed, without waiting for completion of correction operation for one ECC block. Also, since the direction of correction codes is the same as the direction of user data, no memory for rearrangement of data is required and the hardware structure can be minimized. Moreover, since less data transmission/reception takes place between the buffer memory and the external device, bus arbitration can be easily carried out.

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Senshu teaches (col. 6, lines 62-68) the number of data within each segment is smaller than the number of data within the frame and that the correction code position is updated for each segment while the interleave rule is met in causing the data position on the disc to correspond to the data position on the ECC block. None of the prior arts of record teach nor fairly suggest all the limitations in the independent claim 1 of the present application. In particular, the limitations of "...defining a matrix wherein the matrix comprises user data and error correction codewords ...determining the size of the received user data and the amount of the matrix that will be filled by the received user data; and recording error correction codewords segments in an interleave *dynamically* created to correspond only to the portion of the matrix filled by the user data." are not taught nor fairly suggested in the prior arts of record.

Independent claim 7 includes similar limitations of independent claim 1 and therefore is allowed for similar reasons.

Dependent claims 2-6 and 8-12 depend from independent claims 1 and 7 and inherently include limitations therein and therefore are allowed as well.

Any inquiries concerning this communication should be directed to the examiner, Mujtaba Chaudry who may be reached at 571-272-3817. The examiner may normally be reached Mon – Thur 6:30 am to 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, please contact the examiner's supervisor, Albert DeCady at 571-272-3819.



Mujtaba Chaudry  
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August 10, 2005